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Claim 25. (New) A method as set forth in claim 24, wherein said alternate non-public switch telephone network is based on the Internet protocol.

REMARKS

Applicant thanks the Examiner for the detailed review of the application. Reconsideration and allowance are now respectfully requested.

Objection to the Drawings

The drawings were objected to because data unit was identified using two different numbers: 70 and 71. Fig. 2 was amended to comport with the description on page 7, line 13 in the originally filed specification; namely, "Data Unit 71" was amended to read -- Pool of Data Units 71 --.

Rejection of the Claims

Claims 1-16 are currently pending. Claims 1-16 were rejected in the above-referenced Office Action. Claims 5, 10 and 14-15 have been amended for clarity. Additionally, new claims 17-25 are included. No new matter has been entered in either the new or amended claims.

Rejection of Claims 5, 10, 14 and 15 under 35 U.S.C. §112(2)

Claims 5, 10 and 14 were rejected under 35 U.S.C. §112(2) as being indefinite. In response, these claims have been amended for greater clarity.

Claim 15 was rejected under 35 U.S.C. §112(1) as containing subject matter which was not adequately described to be enabling. In response, claim 15 has been amended to call for a "temporary local directory number" that can "come from a standard numbering plan whose numbers are normally dialable, or from a non-standard numbering plan whose numbers are normally not dialable", as supported on page 3 in the first full paragraph.

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Rejection of Claims 1, 5-7, 10-12, 14 and 16 under 35 U.S.C. §103(a)

Claims 1, 5-7, 10-12, 14, and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,978,677 to Sawyer ("Sawyer") in view of U.S. Patent No. 5,889,774 to Mirashrafi et. al ("Mirashrafi"). Applicants respectfully traverse this rejection.

Claim 1 calls for a communication system that provides an optimum connector path between a hard-wired data unit and a mobile data unit, comprising:

means for locating a serving switch last in contact with said mobile data unit;

means for assigning a temporary local directory number to said serving switch; and

means for communicating with said mobile data unit including said hard-wired data unit being connected to an alternate non-public switched telephone network and to the public switch telephone network at a location local to said serving switch and dialing said temporary local directory number to activate a connection with said serving switch

(emphasis added). Similar to independent claim 1, independent claims 10, 14 and 16, along with new independent claims 19 and 25, all call for the combining of three types of networks: 1) a wireless or mobile network (i.e. mobile data unit or wireless modem); 2) a public switched telephone network; and 3) an alternate non-public switched network or Internet-based protocol network.

In contrast, neither the prior art of Sawyer nor Mirashrafi disclose a communications system that incorporates three entirely different types of communication networks. Sawyer discloses a call routing process for a cellular telephone network. Specifically, Sawyer provides for routing a cellular call so that actual voice conversation data is not routed through first and second switching nodes 52(1) and 52(2), but instead directed from a first switching node 52(1) to a base station controller 64. Yet nowhere in Sawyer is the use of an alternate non-public switched telephone network disclosed or suggested.

Similar to Sawyer, Mirashrafi discloses a system that utilizes two types of communication networks. Specifically, Mirashrafi discloses an apparatus for delivering a voice call that originates on the Internet to a telephone on a public

switched telephone network (PSTN). However, Mirashrafi does not disclose or suggest the integration of a wireless network into the system.

Accordingly, Sawyer discloses a system for routing wireless communication traffic over a PSTN, while Mirashrafi discloses a system allowing people to initiate calls on the Internet destined for phones on a PSTN. Neither reference provides for any motivation to carry their respective inventions farther by incorporating a third type of communications network, such as a wireless or alternate non-public switched network. Both references resolved the problem they were directed toward, and did so with the use of only two communication networks. As such, there was no need, and thus no motivation, to attempt to combine these two references during the conception of the invention. Further, any incentive to do so now is simply a product of hindsight.

Moreover, even if Sawyer and Mirashrafi could be related to teach the combination of three different communication technologies (wireless networking, a PSTN, and an alternate non-public switched network), the references would still fail to teach the claimed invention. For instance, according to one embodiment of the present invention, as illustrated in Figure 2, a server 49 for the alternate non-public switched network 45 is connected, by means of a signal transfer point (STP) 55, to the home location register (HLR) 53 of a wireless network. The HLR queries various components on the wireless network and determines the location of a mobile data unit 51, which it then sends back to server 49. With this information, the alternate network 45 can determine which of its data units 70 is closest to the hardwired telephone network or PSTN that services that region of the wireless network. The data is then distributed through data unit 70 onto the PSTN 72, which then delivers the data through the wireless network to the mobile data unit 51.

In contrast, neither Sawyer nor Mirashrafi teach or suggest linking an alternate network server to a home location register of a wireless network, having it retrieve information on how to contact a mobile data unit, and then return that information to the server of the alternate network. As such, once again, a combination of these two references would simply not disclose a functioning system equivalent to the one claimed by the Applicant.

This point is emphasized in the specification and claims. Specifically, in the second paragraph on page 2, it is revealed that in the present state of the art, a *home location register (HLR) 23 is associated with a switching center 19 where the mobile unit phone number "resides."* The HLR interacts with the switching center, which is a switch used for call control and processing. The switch also serves as a point-of-access to the PSTN. This is a standard in the art. However, as then emphasized in the first full paragraph on page 3, due to the unique way that the claimed invention integrates an alternate non-public switched network with a wireless network, the "HLR used by this invention has *no associated switching matrix.*" As a result of this, "*all mobile stations are always in a roaming state.*"

The unique configuration of the present invention is further emphasized by new dependent claims 17 and 19, and independent claim 24, all of which call for the present invention to include "a home location register (HLR) that is addressable by said server [of the alternate non-public switched telephone network] *but is not associated with a home mobile switch.*" Neither Sawyer nor Mirashrafi suggest combining an alternate non-public switched network to a wireless network, and as such, can not possibly teach a combination where the HLR no longer is associated with a home mobile switch. For the above reasons, Applicant respectfully requests that this rejection be withdrawn.

Rejection of Claims 2 and 8 under 35 U.S.C. §103(a)

Dependent claims 2 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sawyer in view of Mirashrafi and in further view of U.S. Patent No. 5,991,621 to Alperovich ("Alperovich"). Applicants respectfully traverse this rejection.

Alperovich is cited by the Examiner as disclosing the use of a visited location register (VLR) in a mobile network and for its method of routing calls. Specifically, the Examiner cites how Alperovich "reroutes incoming calls to the appropriate mobile switching center (MSC) serving the roaming mobile subscriber." However, like Sawyer and Mirashrafi, Alperovich does not disclose or suggest that three different types of communication networks, specifically, a wireless network, a PSTN and a non-public switched telephone network, can be integrated to optimize

communications between a wired and mobile data unit. Alperovich simply calls for a more traditional wireless network that attempts to route calls made to wireless phones in a roaming state such that the relaying of data among the wireless network components is less redundant. Alperovich never suggests utilizing a wireless network with an alternate non-public switched network. As such, the reference fails to disclose how to effectively integrate these two types of networks, such as by linking a server from the alternate network to a HLR of the wireless network, or the lack of a home mobile switch typically associated with the HLR in wireless networks. For the above reasons, Applicant respectfully requests that this rejection be withdrawn.

Rejection of Claims 3, 4, 9, 12 and 15 under 35 U.S.C. §103(a)

Dependent claims 3, 4, 9, 12 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sawyer in view of Mirashrafi and further in view of U.S. Patent No. 5,724,658 to Hasan ("Hasan"). Applicants respectfully traverse this rejection.

The Examiner asserts that the combination of Sawyer and Mirashrafi teach all of the claimed limitations except for the assigning of temporary local directory numbers. However, as shown above, neither Sawyer nor Mirashrafi, either by themselves or combined, disclose a communication system that incorporates three types of communication networks, let alone how to specifically integrate these different types of networks (wireless, PSTN and alternate non-public switched network) to function effectively. Furthermore, the addition of Hasan does not make up for these deficiencies.

Hasan simply discloses a traditional wireless network that reserves a small quantity of telephone numbers and temporarily assigns these numbers to roaming wireless subscribers when they make a call. Hasan does not disclose or suggest the integration of a PSTN and an alternate network with a wireless networking system, let alone how this might be specifically accomplished. Accordingly, even if Hasan were combined with the previous references, the resultant device would still fail to teach or suggest the invention as claimed. As such, it is respectfully requested that this rejection be withdrawn.

CONCLUSION

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited.

Any fees associated with the filing of this paper should be identified in an accompanying transmittal. However, if any additional fees are required in connection with the filing of this paper, please charge Deposit Account No. 07-2339.

Respectfully submitted,

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Marked Up Version of the Amended Paragraphs

Page 3, Paragraph 5: Figure 1 illustrates the current state of the call delivery method for a land-based hard-wired originated call in more detail. In this figure, a land-based terminal 3 is connected to a hard-wired data unit 5 such as a modem, which is in turn connected by a wire 7 to an end office switch 9. Switch 9 originates a call to a mobile terminal 11 such as a notebook computer to a mobile modem or a mobile modem/phone combination acting as a mobile data unit 13. The end office 9, using predefined algorithms and data routes the call to the public switch telephone network/inter-exchange carrier switches ("PSTN/IXC") 15 over existing connectivity 17. The PSTN/IXC 15 routes the call to the home cellular switch 19, the geographic home of the number associated with mobile unit 13, by way of existing connectivity [21] 18. The home cellular switch 19 sends a routing request to the home location register 23, which consults its internal database and determines the last known location of the mobile station 11 in a particular visited location register (VLR) 25. VLR 25 is one of multiple possible such registers.

Marked-Up Version of Claims

Claim 5. (Once Amended) A communication system as set forth in claim 1, wherein said communicating means includes a server for controlling communication through said alternate non-public switched telephone network.

Claim 10. (Once Amended) A telephone system, comprising:

- a wireless data unit;

- an alternate non-public switch telephone network controlled by at least one server;

- a home location register addressable by said server;

- a visited location register in selective communication with said home location register; said home location register including a database showing that said visited location register was last in communication with said wireless data unit;

- a serving switch in communication with said wireless data unit and with said visited location register; said visited location register establishing a temporary local directory number for said serving switch and forwarding said temporary local directory number to said home location register for delivery to said server; and

- a hard-wired data unit; connected to said alternate network and to the public switch telephone network that uses said temporary local directory number to call said serving switch to establish communication with said wireless data unit.

Claim 14. (Once Amended) A telephone system for communicating between a hard-wired data unit and a mobile data unit including a server connected to and controlling an Internet based protocol network for determining the temporary local directory number of a last serving switch in contact with said mobile data unit and for using said temporary local directory number to establish communication with said-a wireless modem through use of said Internet based protocol network and a public switch telephone network.

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Claim 15. (Once Amended) A telephone system as set forth in claim 14, wherein said temporary local directory number can come from a standard numbering plan whose numbers are normally dialable, or from a non-standard numbering plan whose numbers are normally not dialable~~be a callable telephone number or an arbitrarily arranged number.~~

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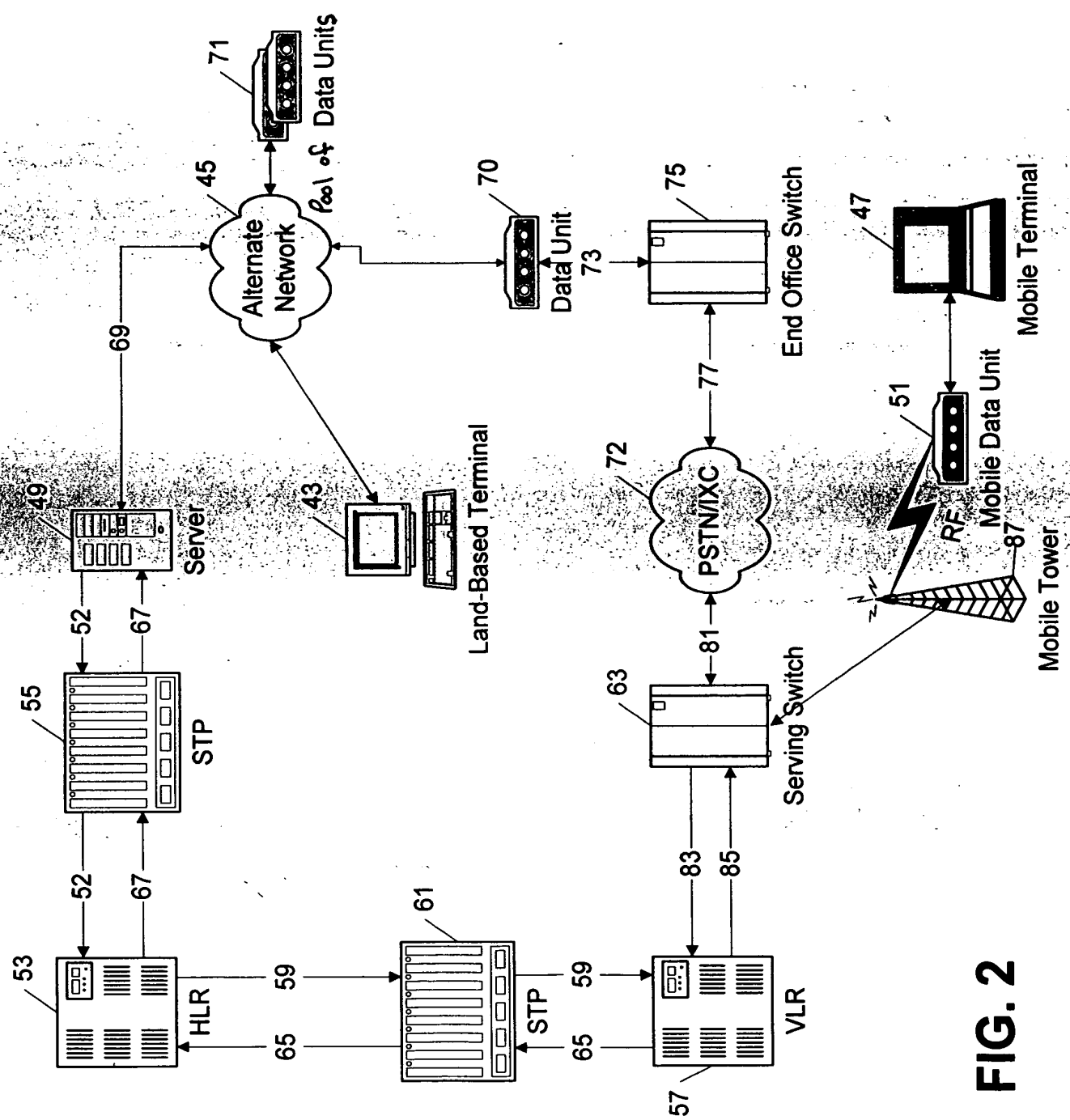


FIG. 2